

Amendments to the Specification:

Please replace paragraph [0001] with the following amended paragraph:

[0001] The invention relates to a hydrodynamic starting unit, ~~in detail with the features from the generic part of Claim 1.~~

Please replace paragraph [0002] with the following amended paragraph:

[0002] Starting units, comprising a hydrodynamic clutch, in particular a controllable or adjustable hydrodynamic clutch, are known in a great number of embodiments from the state of the art. The starting unit comprises an input that can be coupled to a drive and an outlet that can be coupled to a driven unit. The hydrodynamic coupling, comprising a primary turbine or blade wheel and a secondary turbine or blade wheel, which together form a toroid-shaped working chamber, is arranged between the input and the output. The hydrodynamic clutch is free from a stator. The primary turbine wheel is connected to an impeller pan in a rotationally fixed manner. Said impeller pan surrounds the secondary turbine wheel in the axial direction and completely in the peripheral direction. The starting unit further comprises an engaging and disengaging clutch acting as a lockup clutch, which is in parallel arrangement to the hydrodynamic clutch and which can be engaged and disengaged jointly with the hydrodynamic clutch or by itself. This means that two power branches can be realized via both clutches, whereby the power flow takes place either alone via one of the clutches or jointly via both clutches. The engaging and disengaging clutch comprises at least one clutch input element and one clutch output element, whereby the clutch output element is at least indirectly connected to the secondary turbine wheel in a rotationally fixed manner. The clutch input element is at least indirectly connected to the impeller or to the input E of the starting unit in a rotationally fixed manner. The active contact is realized either directly between the two clutch elements or indirectly via further intermediate elements. Preferably the lockup clutch is designed as a multi-disk clutch, whereby means for generating a frictional contact between the clutch elements constructed as disks are provided. The adjusting device comprises a piston element which can be subjected to pressure media. The piston element can be assigned separately to the individual clutch disks or in the case of an especially compact embodiment is formed by the secondary turbine wheel or is situated

directly at said secondary turbine wheel. An operating means supply system is further assigned to the hydrodynamic clutch. The centrifugal or centripetal flow of the clutch is realized via said operating means supply system. In the case of centripetal flow the operating means is guided via an operating material supply channel or space and is fed into the toroid-shaped working chamber in radial direction in the region of the exterior diameter of said toroid-shaped working chamber. In the process the force applied by the operating means upon the adjusting device or the individual clutch elements is used to keep the engaging and disengaging clutch in declutched state or at least to operate it with only a specified amount of slip. The discharge from the toroid-shaped working chamber occurs in the region of the radial inner diameter of the working chamber in a space situated below it or coupled to it, which is also termed a second operating means supply channel and/or operating means supply space. Both the first operating means supply channel and/or space by the inside circumference of the case and the outside circumference of the secondary turbine wheel and the second operating means supply channel and/or space can be exchanged with regard to their function. This is necessary in particular when shifting from the centripetal flow to the centrifugal flow. In the latter case the supply of the operating means to the hydrodynamic clutch takes place via the second operating means supply channel and/or space in the region of the radial inner diameter of the toroid-shaped working chamber, whereby the discharge is performed in the region of the radial outer diameter of the toroid-shaped working chamber at one of the turbine wheels. The engaging and disengaging clutch is then activated. In the case of such starting units the power quantities can consequently be achieved and above all varied via the individual clutches – engaging and disengaging clutch or hydrodynamic clutch. In the process it is desirable in particular in the operation of the hydrodynamic clutch to keep the moment of resistance by the hydrodynamic clutch in the range of very high slip, which corresponds to the moment of resistance by the primary turbine wheel, as low as possible, in order to avoid a negative reaction in particular compression of the speed of the driving engine. This can be realized by the setting of a minimum volumetric efficiency, whereby it has been shown that this measure frequently is not sufficient by itself, since in particular in the range of very high clutch slip, i.e. between 70 and 100 percent there are too high of moments of resistance by the clutch, as a result of which there can be an undesirable reaction on the speed of the driving

engine coupled to the hydrodynamic clutch, so that the desired driving dynamics are no longer given.

Please delete paragraph [0004] in its entirety:

~~[0004]—The inventive solution is characterized by the features of Claim 1. Advantageous embodiments described are in the dependent claims.~~

Please replace paragraph [0021] with the following amended paragraph:

[0021] Figure 1 illustrates in schematically simplified representation with the help of an axial section through a starting unit 1 the basic principle of the inventive ~~subjection of~~ means for influencing the transmission behavior 2 in the form of pressure-controlled mechanical built-in parts 3. The starting unit 1 comprises an input E that can be coupled to a drive and an output A that can be coupled to a driven part with subsequent transmission stages or to another type of driven part. The starting unit 1 further comprises a starting element 4. This is designed in the form of a hydrodynamic clutch 5 in the present case. The hydrodynamic clutch comprises two turbine wheels, also known as blade wheels, one impeller 6 in traction operation in the power transfer from the input E to the output A considered to be the pump wheel and a turbine wheel 7 acting as a turbine wheel, said wheels which together form a working chamber 8 that can be filled with operating material. The hydrodynamic clutch 5 is free from a stator and acts only as a speed converter between the input E and the output A, for which reason the impeller 6 is connected to the input and the turbine wheel 7 is connected to the output A or forms it. The starting unit 1 further comprises an engaging and disengaging clutch 9 arranged parallel to the starting element 4 in the form of the hydrodynamic clutch 5. The hydrodynamic clutch 5 and the engaging and disengaging clutch 9 can be engaged and disengaged either separately or jointly. The hydrodynamic clutch 5 and the engaging and disengaging clutch 9 are arranged in two different power branches, a first power branch 10 and a second power branch 11. The first power branch 10 makes the power transfer possible via the hydrodynamic clutch 5 and the second power branch 11 makes the power transfer possible via the engaging and disengaging clutch 9. The engaging and disengaging clutch 9 comprises at least two clutch elements that can be brought into active contact with each other, preferably in the form of clutch disks. These can be brought into frictionally engaged contact

with each other either directly or at least indirectly via further intermediate elements. Considered in power flow direction from input E to output A, is a first clutch element, which can also be referred to as clutch input element 12 and coupled to it is a second clutch element, which can also be referred to as clutch output element 13 with output A, in particular via the turbine wheel 7.

Please replace paragraph [0025] with the following amended paragraph:

[0025] The supply to the first operating means supply channel or space 19 takes place for example via an output shaft 24 of the starting unit 1 constructed as a hollow shaft 23. In accordance with the invention means 2 for the influencing of the transmission behavior, in particular for influencing the flow circuit of the working circuit ensuing in the working chamber 8, are assigned to the working circuit, which are constructed as pressure controlled mechanical built-in parts 3. In accordance with the invention these means are subjected to pressure via the operating material branched off from the operating means supply channel or space 19 or the operating means supply channel 20 directly coupled thereto. The subjection to pressure does not take place directly, but rather under the development of a differential pressure from the pressure in the first operating means supply channel or space 19 or a channel or space coupled thereto or the pressure in the interior 47 of the housing in the region of the adjusting device 26 and a control pressure. For this purpose a control pressure supply system 67 is supplied, comprising a control pressure medium source 68, which is coupled to an adjusting device 26 for the pressure-controlled mechanical built-in parts 3. The pressure-controlled mechanical built-in parts 3 can be designed differently. However, common to all different designs is the fact that they cause a diversion of the flow circuit of the working circuit ensuing in the working chamber 8. For ~~these~~ this purpose they are designed as elements that can be arranged at an angle to the flow circuit in the working chamber 8 or as guidance elements designed parallel to the flow circuit, for example in the form of walls of the turbine wheels which in their location can be moved in axial direction and/or with designs of a turbine wheel with divided segments in circumferential direction in radial direction. Examples for the concrete design are described in the following figures.

Please replace paragraph [0026] with the following amended paragraph:

[0026] The embodiment shown in Figure 1 of the adjusting device 26 is characterized by a cylinder-piston unit 36, comprising a cylinder 32, in which a piston 34 coupled to the mechanical built-in parts 3 is guided. The cylinder-piston unit 36 comprises two working chambers, a first working chamber 25, in which a front side 33 of the piston 34 is subjected to pressure by the pressure media from an intermediate chamber 30 between the inside circumference 28 of the impeller pan 18 and the impeller 6, which is coupled to the chamber 19, and an additional working chamber 35, which impinges the piston 34 on a front side 37 turned away from the first working chamber 25. Further a spring device 38 is provided which brings the piston 34 to a predefined starting position and with this also to the mechanical built-in units 3 coupled thereto. The second working chamber 35 is additionally coupled to the control pressure media supply system 67. This system can for example be formed by a space in the environment of the starting unit such as the transmission. A valve device 40 is provided for setting the differential pressure, said valve device which can be clocked. ~~The connection of the mechanical built-in units 3 to the working piston 34 takes place in the described case consider in the direction of movement.~~ In the described case, the mechanical built-in units 3 are connected to the working piston 34 in respect of the direction of its movement. In the process the movement takes place in such a way that in the starting range, i.e. range of high slip the influence is given by the mechanical built-in units and in the region of low slip this influence is reduced or completely eliminated. The placement of the mechanical built-in units is therefore set as a function of the pressures, in particular on the individual built-in unit. In the starting region of the hydrodynamic clutch the wall region 43 is completely moved and is moved during the power transfer via the hydrodynamic clutch back in the region of low slip, so that it again assumes the guiding function for the flow circuit.